



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003SC7B

Title: Real-time Water Quality Monitoring for Education and Stakeholder Feedback in the Saluda-Reedy Watershed

Project Type: Research

Focus Categories: Water Quality, Management and Planning, Education

Keywords: Watershed Management, Water Quality, Real-Time Measurement

Start Date: 03/01/2003

End Date: 02/28/2004

Federal Funds Requested: \$26350.00

Matching Funds: \$56740.00

Congressional District: Third

Principal Investigators: Post, Christopher; Klaine, Stephen

Abstract: Field monitoring is a necessity in order to characterize the impact of human activities on environmental quality. Real-time feedback to resource managers and other stakeholders is equally important. Scientists and engineers face challenges of monitoring environmental quality in watersheds great distances from their bases of operation. On the other hand, social scientists face challenges of how to translate results of such research into tools that decision makers can use to better manage critical natural resources in the face of increasing pressure for land development. The transfer of information is critical for the success of all of these phases of watershed research and education. Non-land based information transfer has the potential to accelerate the movement of data from the field to the laboratory as well as present that data and additional information to decision makers, educators, and other stakeholders within the watershed. This project will evaluate the utility of non-land based information transfer technology to accomplish the objectives of water quality research and education projects in rapidly developing watersheds. Specifically, we will develop the algorithms necessary to analyze real-time water quality data transferred from a field site via satellite. Analyses will include development of graphics suitable for web page presentation as well as trend analysis. It is anticipated that, when finished, data from the field site would be immediately analyzed upon download from the satellite and

automatically loaded onto a web page. Hence, viewers of the web site would have access to real-time water quality and water quantity information. This is an excellent opportunity to compliment the equipment support we received by the American Distance Education Consortium (ADEC). While we asked for student and faculty time to develop the algorithms to process the data from the satellite and post it on a web page, they were only able to provide support for the equipment. Results of this project will place real-time water quality information into the hands of policy makers within the watershed. In addition, this information will be available to the general public and, in particular, to teachers and students. It is anticipated that the availability of this information will spawn the development of classroom exercises for students to use this data to learn concepts ranging from watershed processes to water quality to data analysis.

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